Estimating the Frequency of Tap Water Exposures to *Mycobacterium Avium* Complex in the U.S. Population with Advanced AIDS

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Mycobacterium avium complex (MAC) is a group of ubiquitous and opportunistic bacterial pathogens included on the U.S. Environmental Protection Agency's Drinking Water Contaminant Candidate List. The infection risk from MAC-contaminated tap water ingestion appears to be primarily limited to the immunocompromised, including those with advanced Acquired Immunodeficiency Syndrome (AIDS). $CD4^+$ cell counts, which decline as AIDS progresses, are a strong predictor of MAC infection risk in the AIDS population. There is insufficient epidemiologic evidence to determine whether exposure to tap water, food, and soil are risk factors for the development of MAC infection among the AIDS population. We developed an exposure assessment targeting the U.S. population with advanced AIDS, defined here as having less than 100 $CD4^+$ cells/mm^3 of peripheral blood. Using limited data on the detection of MAC and self-reported, post-tap water treatment practices among individuals in the U.S. with human immunodeficiency virus (HIV) infection and AIDS, we developed two exposure models. We estimate that approximately 1500 individuals with advanced AIDS ingest tap water with detectable concentrations of MAC organisms each day. Two important research needs emerged from this exposure assessment. Longitudinal and cross-sectional studies are needed on the occurrence of MAC in tap water, particularly in regions of the US with large HIV^+/AIDS populations. Studies are needed to characterize tap water usage among the HIV^+/AIDS population.